JPRS 76455

19 September 1980

East Europe Report

SCIENTIFIC AFFAIRS

No. 683

FBIS FOREIGN BROADCAST INFORMATION SERVICE

NOTE

JPRS publications contain information primarily from foreign newspapers, periodicals and books, but also from news agency transmissions and broadcasts. Materials from foreign-language sources are translated; those from English-language sources are transcribed or reprinted, with the original phrasing and other characteristics retained.

Headlines, editorial reports, and material enclosed in brackets [] are supplied by JPRS. Processing indicators such as [Text] or [Excerpt] in the first line of each item, or following the last line of a brief, indicate how the original information was processed. Where no processing indicator is given, the information was summarized or extracted.

Unfamiliar names rendered phonetically or transliterated are enclosed in parentheses. Words or names preceded by a question mark and enclosed in parentheses were not clear in the original but have been supplied as appropriate in context. Other unattributed parenthetical notes within the body of an item originate with the source. Times within items are as given by source.

The contents of this publication in no way represent the policies, views or attitudes of the U.S. Government.

PROCUREMENT OF PUBLICATIONS

JPRS publications may be ordered from the National Technical Information Service, Springfield, Virginia 22161. In ordering, it is recommended that the JPRS number, title, date and author, if applicable, of publication be cited.

Current JPRS publications are announced in Government Reports Announcements issued semi-monthly by the National Technical Information Service, and are listed in the Monthly Catalog of U.S. Government Publications issued by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

Indexes to this report (by keyword, author, personal names, title and series) are available from Bell & Howell, Old Mansfield Road, Wooster, Ohio 44691.

Correspondence pertaining to matters other than procurement may be addressed to Joint Publications Research Service, 1000 North Glebe Road, Arlington, Virginia 22201.

JPRS 76455

19 September 1980

EAST EUROPE REPORT

SCIENTIFIC AFFAIRS

No. 683

CONTENTS

INTERNATIONAL AFFAIRS

Briefs
New Airplane 1

BULGARIA

Data Processor Described
(VUNSHNA TURGOVIYA, No 5, 1980) 2

Specifications of Bulgarian Disc Packages
(VUNSHNA TURGOVIYA, No 6, 1980) 4

HUNGARY

Material on 1980 Academy General Assembly
(MAGYAR TUDOMANY, No 7, 1980)............................. 5

Szentagothai Introductory Speech
Secretary General's Evaluation
Aczel Addresses Meeting
Minutes of General Assembly
Officials, Department Heads Elected
Competition for Research Institute

Briefs
International School of Biophysics 41

POLAND

Briefs
Fiber-Ceramics, Acoustics Research 42

BRIEFS

NEW AIRPLANE--A new type of airplane designated L-410 will replace AN-2 airplanes used on air routes within Saratov Oblast, USSR. The L-410 was ordered from the USSR and developed by Czechoslovak airplane designers, making it more comfortable, faster and having a shorter takeoff and landing capability compared with the AN-2. [Prague LIDOVA DEMOKRACIE in Czech 26 Aug 80 p 2]

CSO: 2402

DATA PROCESSOR DESCRIBED

Sofia VUNSHNA TURGOVIYA in Bulgarian No 5, 1980

[Advertisement: "The ES 9004 Magnetic Tape Data Preparation Unit"]

[Text] The ES 9004 is designed for direct magnetic taping of keyed-in data. It provides the opportunity of retrieving a certain block of data for verification and when required for correcting the tape-recorded data.

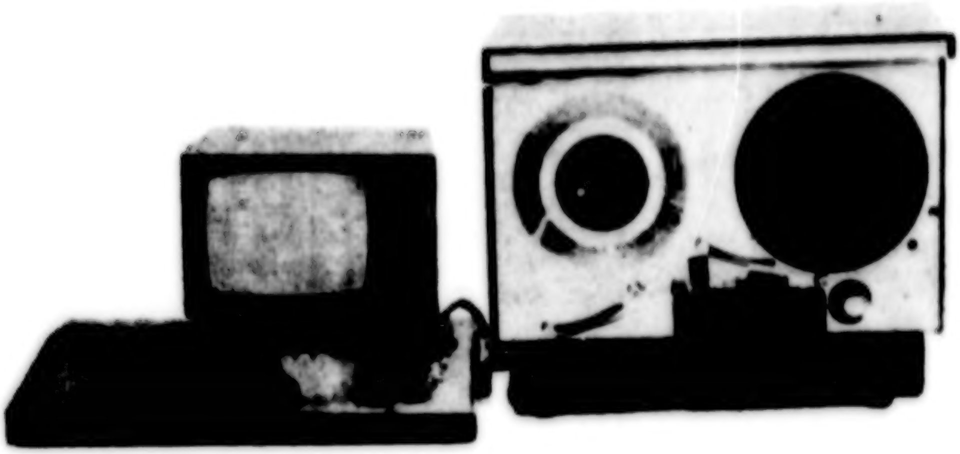
The unit has a built-in buffer storage which stores the entire block of data before being recorded on the magnetic tape. This makes it possible to immediately correct the errors noted by the operator by turning back the memory's address and putting in the correct sign.

The data are put on magnetic tape in blocks 80 or 160 digits long. The unit provides interlocking of the keyboard during the taping and the read cycle after taping, and this makes it possible for the operator to maintain a constant pace in typing in the data.

During the recording cycle, the contents of the buffer storage is not destroyed, and the data are kept for verification which is carried out by direct reading after the recording. The data read from the tape are compared bit by bit with the data kept in the memory.

In the "check" or verification mode, the blocks of data which must be checked are read and fed into the storage one after the other. Each sign of the block is reintroduced from the source document by using the keyboard. The code of the input sign is automatically compared with the code from the storage. If the two codes are the same, the operator can continue the check.

In the "retrieval" mode, the retrieval of a given data block is carried out automatically by comparing each taped block with the identifier which has been put beforehand in the storage by the keyboard. Retrieval is carried out at a speed of approximately 1000 blocks per minute.



Each ES 9004 unit can come with a block indicator for the current data block.

At the request of the client, the ES 9004 can provide the following functions:

1) The possibility of rerecording data from one unit to another;

2) The possibility of printing out the taped data on a printer;

3) The possibility of feeding in data from a punch-card reader.

Technical Specifications:

Data density	32 bits/mm
Recording method	NRZ-1
Tape speed	39.6 cm/sec.
Buffer storage capacity	160 bytes
Block length	80 and 160 bytes
Recording format	ISO system
Basic operating modes	data input, verification and retrieval
Other modes.	Feed-in of program, program check, print, input from punch-card reader.
Programs	2 independent
Display.	Block
Automatic functions	Doubling, fast forward or back
Power	220 V $\pm \frac{10}{15}$ %

10272
CSO: 2202

BULGARIA

SPECIFICATIONS OF BULGARIAN DISC PACKAGES

Sofia VUNSHNA TURGOVIYA in Bulgarian No 6, 1980 back cover

[Izotimpex advertisement; "Disc Packages from Izotimpex"]

[Text]

Basic technical data	Type of package				
	ES5053	ES5261	ES5269	ES5266	ES5267
MV [expansion unknown] capacity	7.25	29/58	2.45/5	100	200
Number of discs.	6	11	1	12	12
Number of recording surfaces	10	20	2	20	20
Track density (TPI) . .	100	100/200	100/200	200	400
Bit density (BPI) . . .	1100	2200	2200	4400	4400
Disc package compatible with:	IBM1311 or equiv.	IBM2314 or equiv.	IBM5440 or equiv.	IBM3330 or equiv.	IBM3300-11 or equiv.
Specification No	DIS2864	DIS3564	DIS3562	DIS4337	DIS5653

10272
CSO: 2202

MATERIAL ON 1980 ACADEMY GENERAL ASSEMBLY

Szentagothai Introductory Speech

Budapest MAGYAR TUDOMANY in Hungarian No 7, 1980 pp 497-501

[Speech by Janos Szentagothai, president of the Hungarian Academy of Sciences at the opening session of the 140th General Assembly of the Hungarian Academy of Sciences [MTA] held in Budapest, 5 May 1980: "Increasing Demands, Greater Responsibilities"]

[Text] After the "Working General Assemblies" of the last 3 years, introduced in a rather unorthodox fashion in the beginning, but now accepted by the majority of our membership, we are now concluding a period prolonged to 4 years by returning, at this general session, to an almost 30-year-old practice of our academy whereby the work of the past 4 years is summarized in a so-called "white paper" printed ahead of time. The Presidium, general secretary, the departments, regional and secretarial committees and some other organizational units of our academy review this period with a view toward summarization and retrospection. To counter the obvious critical remarks to the effect that these reports contain very little of the conceptual or corporate evaluation of the scientific activities of the period beyond a list of some of the most important scientific results contained in the report of the general secretary, I must point out that conclusive analysis and evaluation of the activities of scientific work stations now synchronized with the Fifth Five-Year Plan, will not be possible until the end of 1980. Thus, a comprehensive review of the progress in various fields of science between 1975 and 1980 will have to wait until the 1981 General Assembly at the soonest; a more realistic target would be the 1982 General Assembly. On this occasion I would merely remark that we have had some important scientific achievements. This was also pointed out most recently at the 12th MSZMP Congress.

The central thought of the presidential report we are considering is of a more retrospective character. It analyzes the extent to which the Presidium, and the various departments and regional committees of the academy, fulfilled the demand formulated at the 11th MSZMP Congress: that the national responsibility of the academy should be better reflected in our activities at all levels, based on a recognition of the increasing importance of science in the coming decades. I would like to avoid a repetitive listing of our numerous initiatives involving both organizational aspects and working methods of the academy. These are analyzed in detail in the written reports of the Presidium and other corporate bodies which are presented in full to the critical evaluation of the General Assembly with all of their wider implications. Bits and pieces of these documents were present in the materials of our three previous general assemblies. Since the attention of our membership at these working general assemblies was focused partly on the exciting topics of scientific lectures and partly on the debate regarding organizational questions, an extensive survey of the total activity of the Presidium and other corporate bodies has not been possible until now. More importantly, we are doing this at a moment when we are facing a new, rather worrisome and even dangerous situation in the world economy and international politics. Last, but not least, we are looking at events in the light of the discussions and resolutions of the recently concluded 12th MSZMP Congress which represent a yardstick for the past and a guidepost for the future. Please permit me to apply it in my brief introduction. In retrospect, our judgment is that the spirit of the 1969 guidelines of scientific policy was in essence preserved. Furthermore, as a result of international and domestic factors already mentioned, the true intensive phase of the development of the scientific base in our country started in 1977. This will be a long process, accompanied by a great many difficulties and problems.

The resolutions of the 12th congress consider science more important than ever. What is our evaluation of our activities during the past period in the light of these succinct statements and requirements? According to the first sentence of the part of the resolution dealing with science, the party increasingly requires the participation of science in providing a foundation for decisionmaking and the fulfillment of our tasks. In this regard, although we cannot be fully satisfied with our work of the past few years, we can say that the scientific policy guidelines formulated jointly with OMFB [National Technical Development Committee] and submitted to TPB [Committee on Science Policy], together with the forecasts prepared for OT [National Planning Office], were, at least in their tendencies, up to these requirements. Perhaps I am not overly optimistic when I suppose that some important elements of the statement of the Presidium of the academy regarding the theses of the 12th congress have entered into the discussion at the congress and played a role in the formulation of the decisions adopted there. I am quite ready to grant that what we have done thus far is far from satisfactory and remains below our "best effort," therefore, we must make further efforts and even change our working methods in their entirety. As reflected in our proposed resolutions presented to the General Assembly, we must prepare to multiply our initiatives aimed at the discussion and analysis of some questions requiring scientific preparations before a political decision becomes necessary, by anticipating needs before they actually arise. Just one example is the survey of the total biological and agricultural potential of our country. This work is well under way; it is part of the program of this General Assembly. I think there is no need to dwell on the enormous importance of this question for our agricultural production and our food industry. More detailed formulation of similar initiatives and ideas, already present in embryonic form, may lead to large national programs for future years based on solid scientific foundations. This is the road toward the participation of Hungarian science workers in the long-range solution of the grave problems facing humanity by presenting bold, even radical, new ideas.

Suitable recognition of scientific performance is a reasonable demand that is especially appropriate today. We should not forget, however, the special responsibility this represents for the bodies of the academy with regard to careful, detailed work, as well as the human and ethical performance of our membership. In order to acknowledge performance in accordance with up-to-date requirements of the present day we cannot wait 10 or 20 years to see what proves durable: we must be able to measure it. Modern science possesses suitable means to accomplish this, at least in the natural sciences. Our academy has taken important steps in the area of so-called "scientometry" during the past few years by acquiring the necessary information and processing base. Of course, every scientific method has its own faults and limitations, but the negative attitude with which some of our membership greeted this initiative is hardly justified. One is led to the suspicion that some people are afraid to face such data. I would like to add also that other methods for measuring scientific output must also be used. Only the attempt to use economic, statistical and sociological means in a unified fashion can lead to a reliable way of measuring output.

The importance of requirements figured in a number of speeches to the 12th congress. Questions related to science were prominent in remarks by two women belonging to the younger generation. We always spoke out against mediocrity in scientific research. To ensure that this effort is successful it is necessary to formulate a more stringent system of requirements and insist on its application in every case and in all areas. By the way, for an outside observer, one of the impressive aspects of the congress was precisely the role played by young women. One of them was a university student who spoke of the unsatisfactory level of requirements in university education (I will return to the universities later). Another made some important statements from the standpoint of researchers regarding the need for uniform application of existing requirements.

This leads us to the next statement of the congressional resolution regarding the need for concentration of resources. This is possible mainly in areas where, among other things, the needed personnel conditions are present. But how are we to make research and development work more purposeful if we do not subject the research and development base itself to close scrutiny? This base is enormous, both in relation to the size of our country and on an international scale. In the last 25 to 30 years we developed this base extensively and at an extraordinary speed. What could be more logical today, at the time of a great deal of tension in world economic conditions, than to inquire in the present situation, which is unlikely to ease substantially in the next decades, into the type, structure and scale of a scientific research base that best fits realities, the needs of our economy, the capacity of our society and, last but not least, our personnel conditions. Yet, some unusual nervousness, even hysteria, was generated by the fact that the authorities sent out a working committee, and later some specialized subcommittees, to perform just such an inquiry. This was a first step toward formulating a comprehensive general concept. Our membership and scientific institutions received some information containing a number of important points from the most authoritative source: a presentation by Gyorgy Aczel, deputy chairman of the Council of Ministers, at the expanded general session of our academy held on 19 December 1979. As we all heard, right now all that is involved is the formulation of an ideal model of the research base in line with realities. Moving from the present situation toward this model (and not a mechanistic application of the model) will depend on further investigations and, finally, political decisions. The deadline of any measures to be taken will be set within the framework of the Sixth Five-Year Plan; even then, only the first stage will be implemented. A minimally realistic look at the present situation of our research base and the tasks we face will reveal that such an inquiry, the formulation of a new model and its gradual implementation are practically inescapable. Of course, to see the need for certain measures in the abstract, and to accept the fact that some of these measures might affect us directly, are very different things. We trust that in a few years we will be able to create the foundations for an institutional framework that is more realistically defined and better structured than the one we have at present. Of course, just as the present structure of our research network was built up over several decades, a substantial transformation will also take time. To use an analogy, a car must be driven downhill at the same speed as uphill in order to avoid undesirable side-effects.

The matter of the research base cannot be separated from the question of the universities. Unfortunately, we had to state on several occasions that the fundamental points of the 1969 science policy guidelines of the MSZMP Central Committee have not been fully implemented. To put it more precisely, a great deal has happened to university research, one of the most important of our research bases that must be preserved also for other reasons. For example, support was increased substantially, especially for natural science departments and technical universities. The fact that this has not yet been reflected in a corresponding rise in the quality of university research and the prestige of academic positions is presumably due to other reasons. Only a small part of this is the result of organizational factors, e.g., the lack of a suitable system of committees or deficiencies of cooperation between the systems of committees reporting to the academy or the ministries, etc. Probably a more important reason may be found in the fact that a disproportionate percentage of intellectual capacity is concentrated in oversized research institutes, while universities must live with second- or third-rate representatives at the same scientific fields. In many cases nothing more is involved than the lack of willingness to cooperate on the part of members of the two research bases, not to speak of even worse cases. In our rethinking of the research base we must pay a great deal of attention to this consideration. In general, we need to get a clear idea of the type of workplace best suited for each kind of research, i.e., an academic or enterprise research institute, a university department, or cooperation between one of the above and a potential user of the fruits of research.

The congressional resolution definitely stated that support for basic research must be concentrated in areas that help scientific progress and the accomplishment of our social goals. Here our task is to formulate unequivocal collective opinions and proposals, based on careful investigation, regarding the true relevance and quality of such research. We need not waste time and resources on irrelevant or mediocre basic research. I hope my way of putting this will not lead to misunderstandings, or be regarded as the manifestation of some kind of a technocratic attitude. Many research topics are quite abstract and far removed from practical application, but they may be very relevant to scientific progress (my own area of research is one of these, at least I would like to hope); their international quality is also measurable. Of course, even the most abstract basic research has its hidden (or sometimes not so hidden) relationship to practice: it is the researcher's task to call attention to them.

The categories of basic research, applied research and development research are rather relative. A mechanical insistence on such distinctions may cause unnecessary confusion in many fields of science; in the best of cases, it provides a temptation for exegesis and sophistic arguments. Let us apply these categories where they are appropriate and help us to see clearly and make decisions; let us not try to forcefully use them where they are unsuitable. The problem of relevance is especially important in the social sciences.

Please permit me to bring up a final example from the area of our research in philosophy. The report of the Second Department of our academy points self-critically to difficulties surrounding its own research in philosophy. My participation in the 1978 Dusseldorf International Conference on Philosophy was a great experience. The main topic of the conference was the investigation of modern natural sciences, especially the challenge posed to philosophy by cosmology, molecular biology and genetics, ecology and protection of the environment, brain research and psychology. Although a number of our philosophers are capable of holding their own in the international arena, our research in philosophy is not sufficiently prepared to investigate some central questions. In cosmology and particle physics, i.e., in the field of the infinitely large and the infinitely small, philosophy might be helpful in defining concepts and categories. In the list I just gave, the other end of the spectrum, the area of brain research and psychology, involves more than just natural science. In analogy with one of the wonders of the ancient world, the colossus supported by the two piers at the entrance of the port at Rhodes, research in this area is based both on natural science and on social phenomena; therefore, the situation is entirely different. Here we are unable to do anything without suitable preparatory and parallel work in philosophy. We accepted the implications of this fact and started cooperation among philosophers, psychologists and brain researchers. This is a good example of modern integration between natural and social sciences. This is what I mean by relevance of a field that is social science par excellence.

Speaking of our tasks, we must pay increasing attention to rethinking of the long-range priorities of scientific activity, as indicated in the report of the Presidium. In the period of the scientific and technological revolution the scope of human endeavor is so large in both space and time that any approach that is less than global must be unrealistic. Responsible planning for the future requires knowledge, decisions and data involving the entire globe. We must search for and find our own place in this global program: this is a typical academic task. Over the long run, it is the definition of the tasks that has the greatest influence on the future, by anticipating future achievements.

I wanted merely to give a brief list of some basic ideas by following the resolution of the 12th congress regarding science. I will give a detailed discussion of questions involving our work during the period we have just concluded and the tasks we face in my speech at the start of our closed session. Among these, the most important, in my estimation, is a desirable reform of the entire working method of our academy, a significant rethinking and reconstruction of our committee system. The rich and laudably interdisciplinary program of the various departments and the related debates are, of course, an integral part of our General Assembly. I ask our highly esteemed member colleagues to apply the yardstick I mentioned at the start of my introduction in their critique of the past years and to use the same as a guideline for their thoughts regarding the future.

Secretary General's Evaluation

Budapest MAGYAR TUDOMANY in Hungarian No 7, 1980 pp 502-508

[Speech by Ferenc Marta, secretary general of the Hungarian Academy of Sciences, at the opening session of the 140th General Assembly of the academy in Budapest, 5 May 1980: "Balance Sheet of the Past Period"]

[Text] The written report of the general secretary of the academy presented to the General Assembly on this occasion does not deal with the activity of a single year; instead, it provides a survey of the work of the academy in the sphere of the general secretary over the past 5 years and a summary of the period for which the general secretary and his deputies were named on the basis of the recommendation of the General Assembly and one that is concluded with this meeting where new officers are to be selected.

I

1

The 1980 General Assembly of the academy has the primary function of evaluating the work of the past 4 or 5 years. But in view of the fact that this year's General Assembly falls on the start of the first year of the 1980's, it presents a good occasion for looking back on the 1970's and evaluating the work of the reporting period within the framework of the process of development begun in the 1970's. This is clearly justified not just because of the start of a new decade but, more importantly, because the publication in 1969 of the science policy guidelines of the MSZMP Central Committee began a new stage of development in the scientific activities of our country; this had the most direct impact on us, the academy, Hungarian science and scientific activities in our country. The science policy guidelines set forth in this resolution were reaffirmed by the 10th and 11th party congresses and their main goals were also reiterated by the 28 June 1977 statement of the Political Committee. The 12th congress, concluded a few weeks ago, had the task of formulating the entire social and economic program of the first half of the 1980's. It placed special stress on the need to fully implement these science policy guidelines.

Thus, we can say that the decade of the 1970's started with the formulation of the science policy guidelines mentioned above and continued with the organizational work aimed at their implementation as well as scientific research activity. There is no doubt that the decade of the 1980's will be a period when the aims formulated in the 1970's, and made more precise as a result of the experience of implementation, will be realized.

2

The guidelines dealing with scientific policy, formulated in party resolutions, are based on an attempt to consistently implement the principle stating that the increasingly important role of science is a natural aspect of the progress of our socialist society. Scientific research is increasingly becoming an organic part of a great many spheres of our society (economic, political, cultural, ideological, etc.). For example, it is well-known that our economic development is largely dependent on our ability to increase the production of goods that are competitive in international markets. This is not possible without up-to-date technical development and the research it must be based on. When, on the other hand, we consider the host of new questions and phenomena arising as a result of the development of our socialist society, the increasingly complicated international ideological struggle and, in general, past and present changes in the world and in our country, and the task of analysis and scientific inquiry this presents to the social sciences, the increasing role of science becomes evident. Thus it is clear why the 10th, 11th and 12th party congresses placed increasing stress on the need for more intensive involvement of science in laying the foundations for social and political decisions, formulating our socioeconomic goals and implementing them. The resolution of the 12th congress also stresses that recognition and support for scientific research must be based on the success and value of scientific accomplishment.

The most important requirement and task arising from these resolutions is to increase the effectiveness and efficiency of scientific research activity. This can be accomplished only if we implement a principle that has always been talked about but little used in practice: that support must be given primarily to those research facilities and researchers whose work is at the forefront of international science. The overwhelming experience shows that scientific achievements that are at the forefront of international science can be used most efficiently in practice. Thus, substantially greater support and recognition must be given to those who demonstrated their effectiveness by producing scientific results that are at the forefront of international science and are applicable to the solution of our social and economic tasks. It is also imperative that a much greater number of our researchers become sensitive to social and economic needs and take them into consideration when selecting their research topics.

The capacity of our scientific research base to contribute to the accomplishment of our social goals is significantly influenced by existing obstacles to the process of innovation. Therefore, even if we raised the effectiveness of research to much higher levels and all research results were of international quality besides being applicable in practice, this would not guarantee that these accomplishments would be utilized in practice unless we make sure that the necessary conditions are present. This is quite self-evident and would not even be worth mentioning except for the oft-expressed view that blames the researchers themselves for the unsatisfactory situation with regard to the practical application of the fruits of research. This judgment is often justified in the case of a substantial number of those counted as researchers by statistics. But many researchers have not only the best of intentions (this, in itself, would not be enough); they also possess outstanding scientific results well suited for practical applications. Most of these, however, will not be utilized even though the researchers often do everything in their power to put their results to use.

To summarize the 1970's with these factors in mind, many institutions, workshops and direct management organizations concerned with research and development activity spared no effort in their struggle with their tasks. They won a few rounds and made progress along the road indicated; they overcame a number of obstacles. At the same time we must honestly admit that they have not achieved victory and could not achieve a decisive breakthrough. This was pointed out in the 28 June 1977 resolution of the MSZMP Political Committee entitled "Experience and Current Tasks in the

Implementation of Science Policy Guidelines." This stated, among other things, that the efficiency of domestic research and development activity is unsatisfactory, especially in view of the increasing new demands placed on research and development as a result of the stricter requirements accompanying the social and economic development of recent years.

3

It would not be fair to be overly strict in our judgment regarding the above-mentioned efforts that turned out to be only partially successful. Their effectiveness was undoubtedly reduced by a number of weaknesses in work organization, unfavorable external conditions and also some personnel deficiencies. Careful, sober analysis is needed to pin down the reasons and to define the tasks and conditions necessary to carry them out, including the time factor. It is obvious that a research and development organization and activity that was 30 years in the making cannot be transformed overnight.

4

Therefore, we must not only ask how far we have progressed toward the goals we set: we must also inquire whether the progress we made and our undoubtedly more modest achievements make it possible for us to reach our goals.

With this in mind, I would like to add a few remarks to the written report.

II

In the situation we faced, our most important aim, in view of the goals we set, was to ensure that the Hungarian Academy of Sciences and its network of institutions find their place under constantly changing conditions and turn research and the development of science in our country toward the desired direction in accordance with the paramount role of the academy. This aim was reflected primarily in the formulation of the specific profile of academic research facilities, the corresponding modernization of the network of institutions, increasing alertness to social and economic needs, improvement of the conditions of research and better utilization of the opportunities offered by international cooperation. It is no exaggeration to say that the factors mentioned contributed to raising the scientific quality of research work. There have been some highly important research accomplsihments. A number of these was applied in practice with enormous benefit to the society and the economy.

In the area of our activities on a national scale, our aim was to ensure that the cabinet-level decisions, decrees and measures concerning the nationwide direction and coordination of research take into account the specific role, potential, organization and operating procedures of our academy and its network of institutions in the area of scientific endeavor.

I would like to give a brief account of these aims and accomplishments.

I

When we ask once again, as we did so many times during the past 5 years, what specifically should be the function of the research network of the academy, then we are in a position to define two fundamental requirements. On the one hand, academic research institutes must carry out high-quality, successful research in areas where the fruits of research are used directly to satisfy social or economic demand. In addition, emphasis must be placed on branches of science where the fruits of research provide the foundations for future progress because in the long run they encourage or accelerate the completion of socioeconomic or cultural goals.

This definition of research goals sets strict limits in several areas. It means that the always tempting, but never feasible, goal of universality must be given up. Academic researchers cannot concern themselves with everything that appears on the horizon of their science. Research must be concentrated in the areas that have the highest present or long-range importance from the standpoint of our socioeconomic and cultural development. Additional types of research are justified when they concentrate on the central questions of a given branch of science and thereby accelerate its development. From the standpoint of the rational management of our intellectual and financial resources it would be unreasonable to fritter away the strength and effectiveness of the concentrated intellectual capacity found in our institutes to deal with research topics that are unworthy of such efforts.

Starting in 1976, the activities of the network of academic institutes crystallized in this clearer and narrower direction. This is proved by the large role our research workers played in carrying out research tasks directly related to socioeconomic goals within the framework of national or ministry-level research projects. They also increased the percentage of projects arising from outside contracts. The remaining, still substantial, portion of their resources were devoted to mostly freely initiated research aimed at the foundations of future progress. There is no precise data on the percentage of the latter category, but it must represent at least one third of the total capacity of academic research institutes. A good example of research aimed directly at the accomplishment of socioeconomic goals is the participation of academic institutions in the national and ministry-level research programs and special medium-range research projects listed in the written report. Among the research topics aimed at the foundations of future progress, based on the initiative of institutes, one must mention solid state physics, nuclear physics, structural research in chemistry, mathematics, molecular genetics, genetic surgery and special topics in economics and sociology.

2

Organizational changes within the network of institutes were influenced by the assignment of research tasks, their relationship to high priority tasks and the definition of the ratio of research topics initiated by the institutes themselves. There have been substantial changes in the functional areas of some institutes. For example, the thematic framework of research carried out by the Central Chemistry Research Institute was transformed substantially by the project called "Research into Biologically Active Chemicals." New research activity was focused on the discovery of new pharmaceuticals and pesticides. A similarly radical change occurred in the area of nuclear energy research carried out at the Central Physics Research Institute as a result of the tasks realted to the construction of a nuclear power plant in our country. The increasing importance of research into economic policy required the concentration of the best researchers within the Institute of Economics. This, however, did not require major organizational changes relative to the institutes themselves.

The organizational changes in the area of research positions in university departments supported by the academy were much more significant. Among these changes the most important ones were the transfer of some of the support to the ministries supervising the universities. As a result, the number of research positions within university departments supported by the academy declined from 81 to 67. Another important milestone of organizational change was the formation of the MTA-SOTE [Hungarian Academy of Sciences--Semmelweis University of Medical Sciences] Joint Research Organization with the participation of eight departments within the Medical University. We obtained some favorable experience in recent years with an expanded system of so-called project grants whereby university departments or other research institutions receive support for a precise purpose and for a limited period, based on competition.

3

The personnel and financial conditions of research establishments have improved. The number of workers has increased. Support from the state budget has increased by about 17 percent in 4 years. Although financial conditions have improved slower than planned and the rate of improvements has slowed, especially in the area of investments, due to reasons that are well-known, we can still state that the overwhelming majority of institutes did not have to live with a shortage of financial resources that could have a major impact on the fulfillment of research tasks.

4

We wanted to improve the efficiency of research through more rational utilization of the potential represented by international cooperation. Our goal was to deepen, rather than widen, these relations, especially by improving bilateral and multilateral cooperation with the academies of socialist countries and better selection of joint research topics. The number of cooperative projects carried out jointly with the scientific institutions of capitalist countries also increased.

5

In the past 4 to 5 years we made an effort to simplify the planning and reporting system of academic institutions in order to enable us to form more objective critical judgments regarding the scientific value and social benefits of research results. This work required additional assistance from corporate organs. Cooperation improved in this area, but the evaluation of research accomplishments still represents a difficult problem for us. To achieve progress, it will be necessary, among other things, to devote more energy to the application and development of international experience and methods dealing with the evaluation of scientific work in accordance with conditions in our country.

6

The written report provides an overview of the more important research results obtained by academic research institutes and research establishments receiving support from the academy as well as the practical applications of these results. The work related to the evaluation of results is still in progress. Information regarding this evaluation will be available at the next General Assembly of the academy. Without prejudging this evaluation it may be said that a substantial portion of the results obtained by the academic research base is of international quality, while a smaller portion is at the forefront of international research. As we pointed out in the written report, the percentage of mediocre achievements is rather substantial and there are also occasional cases of low quality research.

The picture is quite positive when we compare the academic research base in its entirety with the national average. In terms of the size of its workforce, the academic research network comprises 10 percent of the national total; when we count only research institutes, the proportion is 20 percent. Academic institutes employ 82 percent of academicians, 66 percent of the doctors of science and 50 percent of candidates, if we include only fulltime research scientists. Twenty-five percent of all support given to research institutes goes to institutes of the academy. Comparisons based on publications, patents or innovations clearly show that the total output of academic institutes is far above their share in terms of personnel or financial support. The scientific accomplishments of the academic institutes are indicated by the fact that during the past 5 years 40 research scientists received state prizes. The undoubtedly positive impression arising from such comparisons cannot hide the fact that serious deficiencies do exist with regard to the quality of research performed at a number of institutes. More resolute steps are necessary in order to eliminate these deficiencies. Some ideas have been formulated on this subject in the course of ongoing work aimed at the reexamination of the network of research institutes. These ideas envisage improvements from the standpoint of concepts and research topics and, less importantly, a small number of organizational changes.

7

Activities carried out on the national scale were centered on improving the effectiveness of research. We tried to achieve this by modifying the organizational structure of national direction, modernizing the management information system in the technical research and development area and, most importantly, by participating in the preparation of resolutions regarding the planning of research. Some important stages of this work have been completed successfully. For example, the guidelines entitled "Main Directions of Scientific Research" have been completed, together with the outlines of the national medium-range research and development plan.

Aside from activities directly concerned with research and development functions, a number of questions subject to regulation on the national scale required our opinions and remarks, as well as the formulation and publication of proposals in our role as the head of an organization with jurisdiction on a national scale. This was carried out on an ongoing basis in the spirit of cooperation by building on the good working relationship we developed with state government organizations.

III

Looking back on the road we have traveled, on our goals and the sometimes successful and sometimes perhaps wasted efforts to accomplish our goals, we can state that some progress has been made. There is no doubt, however, that it has been less than needed and, unfortunately, also less than we could have made.

The tasks formulated in the resolution of the 12th party congress clearly show that our socioeconomic progress requires more efficient contribution from science.

The tasks found in the resolution define our most important immediate tasks.

The academy and its institutions must continue to play a decisive role in scientific endeavors within our country by organizing and directing research work. To this end, among the research activities of academic institutes priority and increased support must be given:

a) to research that is in step with the forefront of international science and is suitable for bringing us closer to our immediate socioeconomic goals, as well as basic research aimed at the discovery of new facts and laws, but not directly related to socioeconomic goals in cases where the results obtained are outstanding by international comparison, and serve the progress of science by providing the foundations for the future.

b) Academic research institutes must play a more prominent role in the work, organization and direction of the programs of OKKFT [National Medium-term Research and Development Plan].

c) The fundamental principle of the modernization of the thematic and organizational aspects of the research base should be its suitability for fulfilling its mission and carrying out the tasks mentioned above.

d) It is necessary to formulate and strengthen the mechanisms, procedures and relationships that provide opportunities and encouragement for practical applications of research results.

e) The planning of research, investment, income and cadre policies and the policy regarding the cultivation of international scientific contacts must reflect the requirements formulated in the congressional resolution and quoted previously.

f) In the interest of a realistic, differentiated evaluation of scientific accomplishments it is necessary to encourage the application and development of international methods in line with our specific conditions. The help of corporate organizations must play a more prominent role. Cooperation and internal coordination must be improved, and the specialists and representatives of organizations interested in the utilization of research results must take part in the evaluation process.

IV

In the 1840's, during a period of great enthusiasm of the reform movement following the establishment of our academy, Vorosmarty wrote as follows: "Patriots in all walks of life look on the academy with great expectation. Some expect, first of all, a definitive book on grammar; others, a perfect dictionary; still others, textbooks for the schools, while some expect the academy to bring everything that is good and does not yet exist... There is soemthing in this kind of talk that may be termed faith, expectation or even public trust that must not be wholly deceived. Although it seems that everyone expects and desires something different from the academy, they all agree, in that they all expect something."

Many things have happened since these lines were written. Our academy has seen good times and bad, and gone through a number of storms. Its activities have resulted in immense accomplishments and occasional failures. Fundamental changes have occurred in our country since Vorosmarty wrote the lines we quoted. It is still true, however, that our society expects a great deal from the academy, that it has faith in the academy, in

Hungarian scientists and researchers. Today, however, we can no longer complain about not knowing what is expected of us, or what is to be done in this important period of the development of our socialist homeland.

I am convinced of the ability and readiness of the members of our academy and the researchers and workers of our institutes to tackle the problems we face. Their performance and accomplishments thus far provide a guarantee of a breakthrough in improving the effectiveness of research during the Sixth Five-Year Plan period.

I call on the General Assembly to debate and kindly accept my written report together with my verbal amplifications.

Aczel Addresses Meeting

Budapest MAGYAR TUDOMANY in Hungarian No 7, 1980, pp 509-517

[Text of speech by Gyorgy Aczel, member of the MSZMP Political Committee, to the opening session of the 1980 General Assembly of the Hungarian Academy of Sciences on 5 May 1980 in Budapest; edited on the basis of stenographic notes]

[Text] I am honored to bring you the greetings and best wishes of the Central Committee and the Council of Ministers. My greetings to all participants of the General Assembly, members of the academy and invited guests who not only ask for and expect, but also--recognizing our situation--demand greater and speedier help from science.

I am convinced that the 140th General Assembly will enter history as one of the more important gatherings, provided that it carries out its tasks by realistically surveying the tasks facing our nation.

The 12th party congress and the months of social debate on the guidelines of the Central Committee provide a realistic basis for, and demand, long-range thinking. Discussions at the academy were valuable and useful in the exchange of ideas preceding the congress. The proposals and criticisms of the Presidium of the MTA represented a valuable contribution to the preparatory work of the congress, as was the identification with fundamental principles of policy reflected in their proposals. I would merely like to contribute a few thoughts to the reports on the president and the general secretary, the current issues they highlighted and the hopefully open and lively debate to follow.

The 12th congress was a working congress that held discussions in a sober atmosphere of trust in a period when the internal and external conditions of our work became more difficult. We decided to continue along the road to advanced socialism toward the goals set forth in the Program Platform of the party looking ahead for the next 15 to 20 years based on a careful analysis of the current reality and our situation.

The congress placed a great deal of emphasis on quality-related requirements. It analyzed the possibilities of preserving, developing and enriching the values of socialism while the growth rate of the economy declines. In this manner the congress laid the foundations for a new, qualitatively different stage in the development of our society.

Our main political strength in accomplishing our taks is the national unity that has emerged relative to the main questions and goals of socialist development and the need to preserve peace. This is not the unity of uniform greyness but a many-colored unity in the fields of politics, society, economy, culture and science. A large part of our society is characterized by the identity of goals and a multitude of approaches coupled with a search for new methods. We are counting on new energies liberated by further development of socialist democracy. This will enable us to react, in a soutable and timely manner, to the changes occurring in the world and in our country.

New Ways, New Means

The problems to the discussed by the General Assembly of the academy and the departmental sessions reflect the great questions of the new decade. As a layman, let me mention an important enterprise such as the nationwide survey of agroecological potential. The joint session of the social science departments devoted to the decade of the 1970's in Hungarian history is another initiative with wide implications. These initiatives are good and topical. Allow me to discuss the decade of the 1980's with a view toward the General Assembly program of the scientific departments.

The milestones of development are not tied to the calendar. We may be certain that the so-called 1980's, which started during the preceding decade, will not last until 1990, provided that our work is successful. Our most urgent task is to hasten the onset of more dynamic development of our economy and society in new ways and by new means in line with changing conditions.

In discussing the present situation, we must ask the question: what does it mean today to say that our country is among the nations with a medium level of economic development?

I think this means more than a few economic indicators such as per capita national income. It also depends on the quality of human relationships, the state of the nation's health, public morals, work sophistication and a number of factors characterizing the level of political development. The expression "medium level of economic development" conceals, in the eyes of some people, the fact that in terms of human relationships and requirements we are not simply better, but rather different, from the most advanced capitalist countries. In spite of this we cannot be satisfied because the tasks we face today require more progress also in the area of human factors.

Today in our country historically progressive and revolutionary aspects coexist with the obsolete, antiquated and conservative. Progress is accompanied by unexpected contradictions in all areas of society. To mention just a few of the many examples: we now have a number of modern large scale industrial and agricultural enterprises, but in some of them production costs are too high. Elsewhere one finds that sophisticated production methods are gaining ground more rapidly than civilized life in general. It is nice to have meat processing plants where hygiene is up to international standards; the problem is that the accepted everyday average level is much lower. Today we see cases in some of our industrial plants where the sophistication of the leadership is way below the professional expertise and abilities of skilled workers. Not infrequently, brand new scientific accomplishments or imported up-to-date machinery are not being utilized because of the lack of skills in the workforce and deficiencies in work organization in less advanced plants. Of course, the example of productive teams working under the most up-to-date conditions may set new standards for the entire society, provided that the democratic openness of society accepts their accomplishments.

The level we have reached represents an enormous achievement relative to our past. Our future requires something more, something different, because in economic competition international standards are the yardstick by which success is measured. We cannot withdraw from this competition. We must stand on our own and, at the same time, work toward our socialist goals.

To satisfy these requirements we must win the people's trust again and again. We must work toward unified action in each question that arises. Under dynamically changing conditions this requires initiative and constant renewal of our goals and methods.

External and Internal Conditions

What are the external and internal conditions we must take into account?

The conditions of extensive development are no longer present in our economy. The old resources are largely exhausted. (Fortunately, one must add, for at least some of them). We must search intensively and without delay for the road toward intensive development.

Our experience shows that the long-term unfavorable turn in international conditions involving a number of basic processes of the world economy is a reality of the present time. In spite of all the difficulties, we can work toward a more rational and rapid organization of our work by starting from existing objective conditions instead of self-justification or waiting for miracles to happen. Only a bad agronomist would blame the weather every year instead of trying to breed frost-resistant varieties. Similarly, the correct thing to do in our situation is to flexibly adapt to changing circumstances and thereby serve our own aims.

The cause of detente and security came to the forefront at the beginning of the 1970's. The living standards and consumption patterns of millions of people underwent substantial improvement. Our life has changed. Science, culture and education have all been enriched. All of this was reflected in a more unified social atmosphere that was taking shape as a result of healthy debates. At the same time we saw a slowdown of economic development and growth, a decline in social mobility and controversial trends in our value system.

What kinds of answers and behavior patterns have emerged? How did the various social strata react to these processes in terms of their state of mind and general awareness?

At the start of the new decade one finds there are those who accept innovation and initiative, transform new opportunities into action, and, for this precise reason, often encounter resistance. On the other hand, there are those who are frightened of the opportunity to act and show responsibility. Some are undoubtedly confused by a changing system of values. Others show inhibitions and uncertainty when it comes time to act. Some are giving way to despair or worse. Bureaucratic cowardice, fear of responsibility to make decisions, and hiding behind legalisms are becoming more noticeable and more difficult to tolerate. We can also see some attempts to simplify reality and show impatience.

More complex aspects of progress, new opportunities and alternatives may lead to initiative and reform-mindedness. They may also provoke a flight into mistaken ideologies. These include nationalism, neoconservativism, pseudoradical criticism that does not consider realities; more frequently, indifference and relativization of all values. Precise and realistic awareness of historical processes is even more indispensable in transitional periods such as the present. This requires a weighing of history, not a false reevaluation of it.

Our thinking is dominated by a recognition that the development of our society depends, most of all, on improving the human condition. This is closely related to the increasingly universal interdependence among specific problems and institutions of our economy, culture and politics.

One of the chief difficulties of the changing situation is the need to recognize and utilize the fact that, for example, economic development involves more than the price system, the regulators and energy management; it is also a question of work ethic and sophistication, political confidence and scientific quality. Lifestyles, on the one hand, involve more than education, consciousness and morals; they also depend on industrial policy, urban development and the state of socialist democracy. Political sophistication, on the other hand, is influenced by party and social organizations, the school system, the economic mechanism, our policy on art and the price system.

This brings us to the renewal of social, economic and political organization and relationships. There are those who tend to see these new requirements only as limiting factors. But they are more than just that. They must hasten and strengthen creative activity, the striving for better and more beautiful things and increased involvement in all areas of life.

Accepting the Challenge

The basic choice we face in the 1980's can be summarized as follows: either we withdraw, preserve what we have and reject the challenge, which implies falling behind (not to mention those who want to step backwards and hold on to obsolete nostalgies); or, we accept the challenge with its enriched requirements and make ourselves ready to mobilize our internal resources.

Today the need to choose between alternatives is present in all areas of life, in every decision. The possibility of a step backwards is always there. So is the opportunity for better and more rapid development.

Even though we are forced to reduce our growth rate, we are still for expanding standards, reforms, creative dissatisfaction and the formulation and acceptance of programs necessary for further progress. This is the natural consequence of three and a half decades of our social, economic and cultural development. This was reaffirmed also by the congress.

Processes aimed at renewal of various areas of society, economy and culture are being started to achieve these goals.

The new producer price system came into being. Economic regulators underwent substantial change. We are discussing the development of flexible relations among enterprises, the improvement of their operating conditions, the creation of small and medium-size enterprises and questions relating to the utilization of the so-called "second" or "auxiliary" economy.

A social policy must be formulated in line with the new situation.

We must work on the unified development of education, training, retraining and continuing education.

We must make substantial progress in the practical application of scientific accomplishments, especially through the development of the relationship between science and production, social science and politics.

Development of the institutional structure and refinement of direction is also on the agenda.

These initiatives, listed for the sake of illustration, are innovative, reform-minded ventures that are becoming part of a national program in the debates on the guidelines and in the spirit of congressional resolutions. We know that even the most perfect system of laws and regulations cannot replace responsible, creative people. Only by working together can we formulate our plans, only with the creative participation of the whole nation can we fulfill them.

From the Standpoint of Science

What are the implications of these tasks for science?

They mean more and, in some sense, something different from the past. The hunger of society and the economy for science is increasing, although this is unfortunately not realized everywhere; this hunger must be satisfied.

It is impossible not to notice that science has become more open toward the problems of society, economic reality and the new problems facing man. Perhaps there are many who expect no more from politics than to reassure the men of science that our economic difficulties will have no impact on the support for research. The question, however, must not be oversimplified in this manner.

Science today is a question of vital importance in a more profound and manifold sense than at the time of Szechenyi, Vorosmarty and Arany. There is no need to repeat that without science we are unable to fulfill the tasks of our present and future. We will not let our intellectual treasure lay idle. Neither shall we fritter it away, not only because of our respect for science, but also in the interest of our nation. The intellectual capacity of our country is present in every Hungarian product that can hold its own in the world market and meets the standards of the domestic population. Although this seems to apply most of all to engineering and agricultural science, this does not mean that we have no need to form a direct alliance with social sciences when we want to make rapid and good political decisions on the basis of a scientific analysis of reality.

The optimism mentioned in the closing speech by Comrade Kadar to the congress does not mean a belief in automatic progress. What it means is that science should develop dynamically, even in a period when economic progress is slowing down. Whether this is what is going to happen will depend on the extent to which our intelligentsia will provide the momentum for the dynamics, whether it is able to find new bases in production and education and whether it is able to build on them.

This insight is not new. Let me just mention the great work of the academy in the area of developing state education. The lessons of this work were used and will be used in the course of the practical development of public education. The academy played a major role in initiating the organized protection of the environment in our country by calling the attention of our government organs to this question so they could take the necessary steps. Members of the academy made strenuous efforts toward the protection of Lake Balaton.

Diversified ties have developed in past years between science and the economy, education, and political and cultural processes. This is unavoidable because advanced socialism cannot exist without advanced science. Socialist national progress cannot exist without a corresponding rise in the quality of science. Socialism is the first historic enterprise of humanity that is governed by a scientific theory. It searches for the best opportunities to ensure that scientific knowledge becomes part of, and has a positive influence on, reality.

Directions of the Development of Research Institutes

Much has happened in the past few years to encourage the practical applications of science. The slogan calling on science to turn toward practice is no longer enough. Those on the side of practice should also ask for and accept the achievements of science. Understanding dialogue and cooperation in all areas between science and practice is today indispensable. A vital requirement is to create a more appropriate, flexible and more regular relationship between their areas and to avoid all kinds of schematism and false simplifications.

The introduction of scientific results is not just a question of organization. We cannot expect success without winning over the intelligentsia, the engineers of an enterprise, the foremen, workers, agronomists, council chairmen, party secretaries.

True cooperation between science and politics, based on joint responsibility, is especially important. This requires the formulation of an increasing number of the conclusions of social science in a way that makes them suitable for practical use, as well as readiness to use these conclusions in all levels of political work. Along with the role of social sciences in exploring reality, achieving a synthesis and forming human consciousness, we cannot dispense with coordinated, creative cooperation among all other branches of science.

Organized, purposeful cooperation and joint interests among the technical and social sciences and, in general, between practical technical or agricultural specialists and scientists are indispensable preconditions for the economic utilization of new scientific results or discoveries. The process we call innovation or renewal will play an ever increasing role in technological development in almost all areas of society. New scientific results must be thought through and carried through from their birth all the way to marketing the endproduct.

The entire system of scientific research institutions must be surveyed. This must include the problems of the research base, planning, financing, optimal use of intellectual resources, training, retraining and continuing education.

At the beginning of socialist construction, when scientific research indispensable for technological development had to be based on an uneven, backward industry and an even more backward agriculture we had inherited, we established a largely separate, centrally managed system of scientific institutions in order to protect science. Today, in view of the much higher level of development of our economy and changes in the methods of direction, the question arises whether this kind of separation between science and production represents an obstacle to the progress of both areas. Researchers and practical specialists have to bridge this gap through cumbersome institutional contacts that are quite artificial. High-quality scientific work and development are needed to provide the foundations for various areas of production. We need more research establishments that are an organic part of industrial or agricultural enterprises.

Emphasis must be placed on increasing the willingness and ability to receive and use scientific results. This could be accomplished by transforming institutes, when possible, into mobile organizations whose primary task is to introduce new results, to take charge and to implement processes formulated in various places.

The other direction for the development of research institutes points toward the universities. Our greatest national treasure, knowledge, is being wasted when a substantial portion of our qualified scientists are not being used in university teaching, and when universities are unable to make use of the most modern research facilities. This is one of our old problems and we must not accept it as unsolvable.

One of the fundamental truths of science policy is that there is no progress, especially scientific progress, without a unified, well thought-through, dynamic development and management of educational affairs that is of high quality and free of improvization. This is the most urgent task facing us in this new decade.

There are those who, from the standpoint of narrow economic considerations, would advocate that we ignore those areas that lead to practical applications only indirectly, over the long haul, those we call basic research. We will not do this. We will not let accumulated knowledge go to waste; we will not forfeit our true cultural treasures.

It is now frequently impossible to draw a rigid line between so-called basic and applied research. Everyone in this hall can give us numerous examples when apparently abstract scientific results, far from everyday practice, unexpectedly lead to substantial practical benefits, or when the application of scientific results provides a key to long unsolved theoretical problems. Thus, one can hardly overemphasize the responsibility of the academy for the nationwide support of basic research.

Atmosphere and Conduct

The state of our scientific community and the performance of science depend largely on the quality of competition, publicity and criticism in science. In a word, they depend on the extent of democracy in this area. This can be best accomplished if scientific workshops and researchers face major tasks; if scientific organizations help in reducing the influence of nonscientific considerations; if criticism that seeks scientific truth is given a hearing before the public of scientific organizations. This kind of debate must be supported and encouraged.

Consideration of scientific performance cannot depend on the age, scientific rank and job of the person in question. We need to develop a social and scientific atmosphere in which the moral and financial recognition of researchers is proportional to their real performance. I know that evaluation is one of the most difficult problems in science, but perhaps the development of socialist democracy may be helpful in this area.

I think that the greatest scientists were more than just the discoverers of new casual relationships: they were also the discoverers and teachers of new talent. The first requires a great deal of intellectual strength, while the second also involves moral strength and commitment to the progress and future of science. Every the great scientist has a school, be it large or small; here, students who are more than just sycophants prepare for their future accomplishments.

Even the best ideas can be distorted when they become an obsession. Even the greatest thoughts may lose their creative force if their authors surround them with tall fences and regard them as private property that cannot be touched by other ideas. This is what defines the socialist character of a scientist's conduct: whether we can change this private property relationship that sometimes develops into a monopoly that binds researchers, research teams or even entire institutes to their own ideas and blocks their individual progress.

Consistent implementation of the science policy guidelines means the accomplishment of these tasks.

Internal Momentum

The occasion and the place understandably prompted me to dwell on the social role of science. When we discuss the social role of science our thinking is governed by the question: what is needed to mobilize the internal resources necessary for our economic and social progress?

First of all, a precise awareness of the situation, realistic knowledge about ourselves, insistence on a theoretical basis for every area of social action, and a willingness to supply theoretical knowledge. The congress resolution warns against the dangers of both ideological distortions and the belittling of theory. We must be consistent in our application of the performance principle and we must not give up considerations of humanism. Differentiation among individual or organizational performances is indispensable. Higher quality must be given preference precisely in order to eliminate inequalities.

We must investigate the value system of our changing society and the consumption model that serves our development. Today we do not really know which of the really existing human needs are the ones that must be supported to encourage the demand for the emergence of personality, a meaningful life and rich humanity. Of course in this area there is no place for any kind of regimentation. I do not believe, for example, that large numbers of people could be made to give up certain card games by command. But perhaps we can do something to increase the popularity the intellectually more demanding game of chess.

One can expect a kind of change in lifestyles and living conditions and an increase in job mobility that will engender conflicts that are no less significant than those of major social transformations.

This means that there is a pressing need for experiments that are helped by society. We must permit experiments involving initiatives or ventures that improve and enrich our situation and overcome obstacles in all areas. This must be done in a responsible manner, not just for its own sake.

We must implement the conclusion, reiterated by the congress, that a more difficult economic situation requires more, not less, democracy in public life and in all areas of society. The development of socialist democracy is not just the task of the party and government leadership: it involves all public authorities, people and organizations. The development of the economy is not just a question of economics. Science could set an example if scientific councils within our institutions would gather strength and their real influence on institutional questions would grow. This could also lead to a substantial strengthening of professional management.

What are the implications of all of this? They involve new opportunities for action and some contradictions that were unknown until now. As of now, we cannot expect less conflict but more, along with changes in the requirements that apply to individuals and institutions, a reevaluation of the concept of security and changes in demand.

The question of social justice is emerging on the basis of our old principles, but in a new way and with a great impact. The concrete meaning, historical opportunities and contradictions of social justice are subject to change.

When we emphasize the principle of equality we may not be fully aware that this also means an acceptance of inequality in the struggle for more equal chances and conditions.

There are traditions of formal equality and egalitarianism in our thinking, although Marx already called attention to the fact that equality without material and intellectual wealth merely means generalized poverty.

We are on the side of talent, the acceptance of responsibility, accomplishment through struggle, courage of thought and action, special recognition, and above-average conditions for better qualified individuals and differentiation in the interests of the community. This often implies a struggle for our own renewal, for changing and preserving our values and the shedding of obsolete ideas and illusions. At the same time, these conflicts and the sometimes painful changes of the period we face will create the pleasures of accomplishment for those who consciously take on these tasks. This involves more than a small number of intimates: it encompasses wide masses. Man progresses through this struggle.

Today perhaps I spoke longer than usual about changes, innovation, reforms and programs aimed at the solution of our common problems. Our common task is to actively react to these truly vital national issues that are solvable and are awaiting solution. The continuity of our policy and the foundations of our methods provide assurance because this is the only way to preserve our socialist national unity based on well-tested principles formulated by the party. Only with this strength can we make progress with the entire nation. Attila Jozsef feared for humanity on account of the "ancient monster" of "unthinking thought;" we, on the other hand, expect more dynamic, rapid and beautiful progress of socialism from ideas that are well thought through and that are being implemented in practice.

Only a few days separate us from the 35th anniversary of the end of World War II. Europe has had peace for 35 years. The history of this continent has never had such a long peaceful period. Unfavorable changes in world politics again raise serious questions. We cannot see the future, but we are people of action. We are certain that the forces that have made it possible for our continent to enjoy peace, the elimination of cold war and detente continue to exist.

Waiting for miracles and resignation in the face of lurking dangers are both serious mistakes. What we need instead is rapid, constructive reaction and cooperation with all forces that are willing to cooperate in all areas of life.

The recent European Science Forum held in Hamburg is a good example. This conference also showed that not only does detente help in the universal development of science and the internationalism that is part of its very nature, but that science with its goals, humanism and authority can also accomplish a great deal for the cause of peace and detente. It is pleasing to find that Academy Week and the Day of Peace are traditionally celebrated at the same time. For our policy aimed at the preservation of peace, the precondition for all of our human goals, and for our efforts formulated by the congress, we ask for the active and critical cooperation and firmness of the Hungarian Academy of Sciences and science in general. We ask for the help of science in developing the socialist quality of our life.

Minutes of General Assembly

Budapest MAGYAR TUDOMANY in Hungarian No 7, 1980, pp 544-547

[Text] The 140th General Assembly of the academy opened on 5 May in the meeting hall of the Hungarian Academy of Sciences in the presence of the leadership and members of that body and well-known personalities of our scientific community. Gyorgy Aczel, member of the MSZMP Political Committee and deputy chairman of the Council of Ministers, was a participant and speaker at the session.

The General Assembly was charged with the task of debating the activities of the academy between 1976-1980 and delecting new officers. The session was opened by Janos Szentagothai, president of the academy. In his introductory speech he gave verbal amplifications complementing the written report of the Presidium. Afterwards, Ferenc Marta, general secretary, presented his written report. Then the General Assembly of the academy heard Gyorgy Aczel deliver the greetings of the party and the government. (All three speeches are published in this issue.) The opening session ended with the award ceremonies of the academy prizes and Arany Medals of the academy.

Scientific departments held their sessions from 5 to 8 May. The work of the General Assembly continued with a closed session held in the afternoon of 8 May in the Congressional Hall of the Royal Palace.

Debates of the Closed Session

Debate on the reports started with a speech by President Janos Szentagothai under the chairmanship of Vice President Jozsef Fulop. The speech called attention to some of the fundamental questions of the management and organization of science. The speaker gave a critical analysis of the activities and working methods of the academy and pointed to especially important problems mentioned in the working papers of the General Assembly. Then general secretary Ferenc Marta surveyed the formation of the network of research institutes and the status of the situation report that is nearing completion. On the subject of ideas concerning the development of academic institutes he stressed the need to work for the creation of opportunities for more effective performance.

These speeches were followed by a wide-ranging debate that continued during the Friday session. Constributions to the debate on the reports were made by members Gyorgy Adam, Antal Babics, Peter Balint, Mihaly Beck, Otto Bigari and Jozsef Bognar; corresponding members Gyula Csikai and Bela Kalman; member Istvan Kiraly; corresponding members Zoltan Kiraly and Dezso Kiss; members Albert Konya and Pal K. Kovacs; corresponding member (6th Department) Jozsef Lukacs; member Ferenc Martos; corresponding members Janos Meszaros, Karoly Nagy, Gabor Petri; member Karoly Polinszky; corresponding member Janos Prohaszka; members Erno Pungor, Janos Szabo and Sandor Szalai and corresponding member Jozsef Ujfalussy.

One of the most hotly debated topics of the General Assembly was the system of scientific qualifications. A number of remarks were made concerning both conceptual and organizational aspects. Many have urged modernization, strict objectivity, raising the quality of examinations and prerequisites in general as well as reforms of procedure and record-keeping. A number of participants discussed the role and importance of university research. They called attention to the dangers of possible reorganization, i.e. the chance that universities may get second-rate personnel transferred from the institutes. Some saw the solution in increased project grants and fair recognition of the accomplishments of university departments. They noted the direct relationship existing between the size of support and the expected results.

Participants in the debate considered the problems expected in the coming period. They gave a profound analysis of the possible ways of encouraging scientific progress. Questions of organization and management played a prominent role among the proposals. They pointed to reserves in instrument supply and utilization. They called for new forms of cooperation among the various branches of science, priority support for the most urgent topics of research, and better cooperation between the academy and other central authorities. They spoke critically of backwardness arising from a provincial outlook. They stated that progress has been unsatisfactory even in relation to what was possible. They pointed to specifically national tasks that can only be solved with the means available at home.

In the course of the debate they did not lose sight of the close interdependence between science, economic practice and production. Experience shows that the fruits of research are slow to appear in practice; in some cases they are not utilized at all. According to the participants, one of the reasons for this state of affairs is found in the compexlity and bureaucratization of contacts between institutions. They called for cooperation between theoretical and practical professionals in the area of medical science.

One of the characteristic features of the discussion was its openness. The agenda included, in addition to questions strictly internal to science, the tasks of politics, public education and culture. They called for the participation of scientists in public life, asking them for the help they can provide in the field of politics. They said that researchers who look ahead far into the future must anticipate national tasks. They analyzed the contribution of the academy to the development of public education until now. In their view, the academy must accept this role in the future (although under different conditions) because there are still a lot of unsolved problems. Members of the academy can make an important contribution to raising the level of the propagation of science and combating pseudoscientific views.

Janos Szentagothai and Ferenc Marta replied to the statements made in the course of the debate. Then the participants took note of the reports of the Presidium and the general secretary with approval, and adopted a resolution on the tasks facing the MTA.

New Officers of the Academy

At this point the closed session decided on the chief officers of the MTA and made proposals to the Council of Ministers on the naming of the general secretary and deputy secretaries general of the academy. Member Janos Szentagothai was reelected to the post of president of the MTA for a 5-year term. Members Pal Zsigmond Pach, Karoly Polinszky and Andras Somos were elected vice presidents. Members Gyula Eorsi, Jozsef Fulop, corresponding member Zsuzsa Hollan, members Ferenc Marta and Erno Nemecz, corresponding member Janos Prohaszka, members Bruno F. Straub, Kalman Szabo, Bela Szokefalvi-Nagy, Pal Tetenyi and corresponding member Jozsef Ujfalussy were elected members of the Presidium.

The General Assembly elected Norman Ernest Borlaug, Nobel Peace Prize winning plant breeder of the United States, as an honorary member of the Hungarian Academy of Sciences.

The 140th General Assembly of the academy ended with a closing speech by Pal Zsigmond Pach.

Sessions of the Scientific Departments

Sessions and discussions of the scientific departments took place from 5 to 7 May.

The session entitled "The Decade of the 1970's in Hungarian History" took place on 7 May. It was organized jointly by the departments of Hungarian Language and Literature, Philosophy and Historical Sciences, and Economics and Legal Sciences. The session, accompanied by a great deal of interest, was opened by member Pal Zsigmond Pach, vice president of the MTA. This was followed by lectures: "Our Road to the Decade of the 1970's" by Ivan T. Berend; "The Reorientation Stage of Hungarian Economic Development" by member Jozsef Bognar; "Economic Challenge, Social Response" by Kalman Kulcsar, corresponding member; "Problems in Identity Development" by candidate of educational sciences Ferenc Pataki; "Ideological Features of the 1970's in Hungary" by Istvan Hermann, corresponding member; "Interaction of Cinema and Literature in the 1970's" by Istvan Nemeskurty, doctor of literary science; "Trends in Our Linguistic Behavior Patterns in the Recent Stage of Our Social Development" by Sandor Karoly, doctor of linguistics; "Art of the 1970's" by Lajos Nemeth, doctor of art history; and "Question Marks in Our Music Culture" by corresponding member Jozsef Ujfalussy. The lectures commanded a great deal of attention. Their text was published beforehand jointly by the three departments organizing the debate. Long selections appeared in the daily press and some of them will be published in the near future in various periodicals. (Our journal also played a part in these publications: the study by Kalman Kulcsar appeared in Issue No 6, 1980 and this issue contains the lecture by Jozsef Ujfalussy, which could not be published in the preliminary volume due to early publishing deadlines.)

The joint session of the Departments of Mathematics and Physics, Medicine and Biological Sciences entitled "New Aspects of Biophysics" began on the same day. Member Imre Tarjan pointed in his opening speech to the importance of cooperation among various disciplines. The lectures dealt mainly with the biological aspects of the relationships among atoms and molecules. The reports discussed new research into the structure and functions of highly important macromolecules and the functioning of immune systems. The following is a list of lecturers at the session: member Bruno F. Straub, Candidate of Biological Sciences Peter Zavodszky, Candidate of Physical Sciences Laszlo Cser, Doctors of Biological Sciences Sandor Damjanovics and Pal Venetianer, Candidate of Biological Sciences Gyorgyi Ronto, Doctor of Physical Sciences Lajos Keszthelyi and Candidate of Biological Sciences Sandor Gyorgyi. Next day's session, held on 8 May, dealty primarily with the structure and functions of the nervous system, properties of nerve cells and related research results, as well as questions of biological and medical applications. Lectures were given by member Janos Szentagothai, corresponding member Janos Salanki, Doctor of Medical Sciences Otto Feher, Candidate of Biological Sciences Elemer Labos, Doctor of Physical Sciences Jozsef Zimanyi, members Tibor Vamos and Jozsef Tigyi, corresponding member Denes Berenyi, Doctor of Physical Sciences Ede Kapuy and Ferenc Szlavi, deputy technical director of KFKI [Central Physics Research Institute].

The joint session of the Departments of Agricultural Sciences, Biology and Mining and Earth Sciences held on 6 May dealt with the first results of the large-scale research project surveying the natural resources of our country. Following the opening speech by Chairman Ferenc Martos, member of the academy, the ongoing work was discussed by corresponding member and Deputy Secretary General Istvan Lang. (His lecture is published in this issue.)

On the same day, the Department of Mathematical and Physical Sciences held a session entitled "Mathematical Theory of Computation." The session was chaired by corresponding member Laszlo Leindler. Reports were presented by Doctor of Mathematical Sciences Matyas Arato, corresponding member Imre Katai, Doctors of Mathematical Sciences Zoltan Daroczy and Ferenc Gecseg, Candidate of Technical Sciences Tamas Gergely and Candidate of Mathematical Sciences Janos Szelezsan. The afternoon session of the department discussed development trends in physics. Lectures were given by Candidate of Physical Sciences Ferenc Mezei and Doctors of Physical Sciences Peter Szepfalusy, Judit Nemeth (Mrs Dornyei) and Gyorgy Pocsik. The department held an open session on 7 May where, following the chairman's opening speech by member Bela Szokefalvi-Nagy, a report on the activities of the department from 1976 to 1980 was presented by Imre Tarjan.

At the 5 May scientific session of the Department of Agricultural Sciences under the chairmanship of member Erno Csizmadia the situation and tasks of agricultural sciences were discussed following the introductory speech by member Istvan Tamassy, chairman of the department.

The Department of Medical Sciences listened to member Szilard Donhoffer survey the work of the department in the past 4 years. Then the participants discussed the results of new research into brain activity and the nervous system. Lectures were presented by Doctor of Medical Sciences Laszlo Molnar, Candidate of Medical Sciences Istvan Tariska and member Istvan Kornyei. Reviewes of their papers were presented by Candidates of Medical Sciences Gyorgy Artur Fejer, Istvan Pataky, Candidate of Biological Sciences Laszlo Graf, Assistant Lecturer Maria Mazlo, Candidate of Medical Sciences Gyorgy Gosztonyi, Doctor of Medical Sciences Endre Czeizel, Candidate of Medical Sciences Gyorgy Palffy, Chief Physician of the Szombathely Megye Hospital Ferenc Gurzuly and Candidate of Medical Sciences Adorjan Matyus.

At the May 6 open session of the Department of Technical Sciences member Geza Bognar reviewed the work done since the 1976 General Assembly. The afternoon scientific session discussed the technological and energy situation and development directions of aluminum, nonferrous and ferrous metallurgy. The lecturers were Adam Juhasz and Otto Farkas, both doctors of technical sciences. Their papers were reviewed by Janos Zambo, doctor of technical sciences; Janos Horvath, director of the Steel Industry Research Institute, and Gellert Repasi, candidate of technical sciences.

The open session of the Department of Chemical Sciences held on 7 May heard the report of member Mihaly Beck on the work of the department from 1976 to 1980. Five participants were asked to comment on his report: member Janos Hollo; Vice President of the Hungarian Pharmaceutical Association Gyula Horvat; Deputy Director General of OKGT [National Oil and Gas Industry Trust] Bela Peceli; Director of the Budapest Chemical Works Tamas Poros and Candidate of Chemical Sciences and Director of NEVIKI [Research Institute for Heavy Chemicals Industry] Andras Szanto. The afternoon session discussed the problems and tasks of the training of chemists and chemical engineers based on lectures by Department Head and Assistant Professor Imre Szebenyi and member Zoltan Szabo. Their presentations were reviewed by Doctor of Medical Sciences Kazmer Jobst; Director of the Vegetable Oil and Detergent Industry Enterprise Mrs Jozsef Kurucz; Candidate of Chemical Sciences Zoltan Meszaros, research director of the

Chinoin Pharmaceuticals Factory; Balint Nagy, main department head at MEM [Ministry of Agriculture and Food Industry]; and Gyorgy Zador, vice president of the Trade Union of Chemical Workers.

At the 7 June open session of the Department of Biological Sciences member Jozsef Tigyi discussed the activities and goals of the department under the chairmanship of corresponding member Tibor Jermy.

The open session of the Department of Mining and Earth Sciences was chaired by Marton Pecsi, member of the Academy. Member Ferenc Martos reviewed the wide-ranging activities of the department since 1976 and discussed new tasks.

Officials, Department Heads Elected

Budapest MAGYAR TUDOMANY in Hungarian No 7, 1980 p 553

[Text] Appointment of the Secretary General and Deputy Secretaries General of the MTA

Based on the nomination of the General Assembly of the Hungarian Academy of Sciences the Council of Ministers named Lenard Pal, member of the MTA, to the post of MTA Secretary General; member Bela Kopeczi and corresponding member Istvan Lang to the posts of deputy secretaries general.

Newly Elected Heads of Scientific Departments

Following the General Assembly of the Hungarian Academy of Sciences held in May the scientific departments of the academy held meetings to elect officials. The following were elected chairmen of scientific departments:

Department of Linguistic and Literary Sciences: member Miklos Szabolcsi;

Department of Philosophy and Historical Sciences: Ivan T. Berend;

Department of Mathematical and Physical Sciences: member Imre Tarjan;

Department of Agricultural Sciences: member Istvan Tamassy;

Department of Medical Sciences: corresponding member Gabor Petri;

Department of Technical Sciences: member Otto P. Geszti;

Department of Chemical Sciences: member Mihaly Beck;

Department of Biological Sciences: member Jozsef Tigyi;

Department of Economic and Legal Sciences: corresponding member Kalman Kulcsar;

Department of Mining and Earth Sciences: member Ferenc Martos.

The following were elected deputy chairmen in the above order of departments: member Janos Harmatta, corresponding member Andras Mocsy, corresponding member Laszlo Leindler, member Erno Csizmadia, corresponding member Istvan Nasz, member Janos Szabo, corresponding member Gyula Hardy, corresponding member Tibor Jermy, corresponding member Katalin Szikra (Mrs Falus), member Marton Pecsi.

Competition for Research Institute

Budapest MAGYAR TUDOMANY in Hungarian No 7, 1980 (insert)

[Text] Call for Competition

According to applicable provisions of state law and instructions of the secretary general, the appointment of scientific officials of MTA research institutes is for a limited period not to exceed 5 years. Since appointments will expire in many areas this year, the main scientific departments of the MTA are organizing a competition to fill the posts of scientific officials.

The Department of Natural Sciences I of the Central Office of the Hungarian Academy of Sciences announces a competition for the post of scientific director at the Measurement and Computation Technology Research Institute of KFKI [Central Research Institute of Physics];

the Solid State Research Institute of KFKI;

The particle and Nuclear Physics Research Institute of KFKI;

and for the post of deputy scientific director at the Technical Physics Research Institute. The appointments are from 1 January 1981.

Applicants must satisfy the following requirements:

--university graduation and scientific degree;

--significant scientific accomplishments in one of the areas of research within the scope of the work of the institute, or substantial experience in promoting the application of research results;

--experience in running a research institute or a major research unit.

The application must include:

--the present employer, job classification, rank and salary of the applicant;

--a description of the professional work and accomplishments of the applicant;

--a list of papers, books and other works of the applicant with precise bibliographical references;

--indication of scientific degrees, honors and competence in foreign languages;

--in the case of applications for the post of director, the applicant's plans for future activities of the institute.

Applications must be accompanied by:

--notarized copies of certificates;

--detailed curriculum vitae (two copies);

--certificate of moral conduct.

Academic researchers need not include the documents mentioned above.

The rank and management appointment of scientific director and deputy scientific director are governed by Decree No 16/1977 (1 December) of the Ministry of Labor and directive No 1/1978 (A.K.1) MTA-I of the secretary general.

Applications for the post of director must be received by the secretary of MTA, (for deputy director, by the appropriate deputy secretary general) at the Department of Natural Sciences I of the MTA Central Office (1051 Budapest, Munnich Ferenc u.7) no later than 30 days after the publication of the call for competition.

Budapest, 1 July 1980

signed
Mihaly Sandor
head of main department

The Department of Natural Science II (Biology) of the Central Office of the Hungarian Academy of Sciences announces a competition for the post of scientific director of

--the Biochemical Research Institute of the Szeged Biology Center of the MTA;

--the Biophysical Institute (Szeged) of the Szeged Biology Center of the MTA;

--the Soil Science and Agrochemistry Research Institute of the MTA;

--the Martonvasar Agricultural Research Institute of MTA;

and for the post of deputy scientific director at

--the MTA Veterinary Medicine Research Institute;

--the MTA Experimental Medicine Research Institute;

--the MTA Biological Research Research Institute in Tihany;

--the MTA Agricultural Research Institute in Martonvasar;

--the MTA Soil Science and Agrochemistry Research Institute;

--the Szeged Genetics Institute of the Szeged Biology Center of the MTA;

--the Szeged Biochemistry Institute of the Szeged Biology Center of the MTA;

--the Plant Biology Institute of the Szeged Biology Center of the MTA.
The appointments are to start on 1 January 1981.

Applicants must satisfy the following requirements:

--university graduation and at least a candidate degree;

--substantial accomplishments in a research area within the scope of the institute;

--applicable experience at the head of a research institute, university department or science section.

The application must include:

--indication of the present employer, job classification, rank and salary of the applicant;

--description of the professional activities and accomplishments of the applicant;

--a list of papers, books and other works of the applicant with precise bibliographical references;

--indication of scientific degrees, honors and knowledge of foreign languages;

--in the case of applicants for directorships, ideas regarding the functioning of the institute.

Applications must be accompanied by:

--notarized copies of all certificates;

--two copies of a detailed curriculum vitae;

--a certificate of moral conduct.

If the applicant is presently employed by the MTA then the application must include only the plan regarding the scientific program of the institute and its implementation.

The rank and appointment of scientific director and deputy scientific director are governed by Decree No 16/1977 (1 Dec) of the Ministry of Labor and directive No 1/1978 (A.K.1) MTA-F of the secretary general.

Applications for directorships must be addressed to the MTA secretary general, for deputy directorships to the appropriate deputy secretary general, at the Department of Natural Sciences II (Biology) of the Central Office of the Hungarian Academy of Sciences (1051 Budapest, Munnich Ferenc U. 7) no later than 30 days after the publication of the call for competition.

Budapest, 1 July 1980

signed
Istvan Teplan
head of main department

The Department of Social Sciences of the Central Office of the Hungarian Academy of Sciences announces a competition for the post of scientific director at

--the Institute of State and Legal Sciences;

--the Ethnography Research Group;

--the Archeology Institute;

--the Institute of Musicology

and for the post of deputy scientific director at

--the Industrial Economics Research Group;

--the Economics Institute;

--the Ethnography Research Group;

--the Archeology Institute;

--the Institute of Musicology

and for two posts of deputy scientific director at

--the Institute of State and Legal Sciences. The appointments will start from 1 January 1981.

Applicants must comply with the following requirements:

--university graduation and at least a candidate degree;

--significant scientific accomplishments in an area of research within the scope of the institute applied for;

--applicable experience at the head of a research institute or a large research unit.

The application must include:

--in the case of applicants for directorships, a plan for the scientific program of the institute and its implementation;

--indication of the present employer, job classification, rank and salary of the applicant;

--description of the professional work and accomplishments of the applicant;

--precise bibliographical list of books and papers written by the applicant;

--indication of the scientific degrees, honors and knowledge of foreign languages.

The application must be accompanied by:

--notarized copy of certificates;

--two copies of a detailed curriculum vitae;

--certificate of moral conduct.

If the applicant is a present employee of MTA then the data and attachments listed above need not be included with the application.

The rank and appointment of scientific director and deputy scientific director are governed by Decree No 16/1977 (1 Dec) of the Ministry of Labor and Directive No 1/1978 (A.K.1) MTA-F of the secretary general.

Applications for directorships must be addressed to the secretary general of the MTA, and those for deputy directorships to the appropriate deputy secretary general of the MTA at the Department of Social Sciences of the Central Office of MTA (1051 Budapest, Munnich Ferenc u. 7) no later than 30 days after the publication of the competition.

Budapest, 1 July 1980

signed
Ferenc Rottler
head of main department

Detailed conditions of the competition are published in issue No 7, 1980 of the AKADEMIAI KOZLONY.

9164
CSO: 2502

BRIEFS

INTERNATIONAL SCHOOL OF BIOPHYSICS--Under the auspices of the Hungarian Academy of Sciences, the Hungarian Biochemical Society and Institute of Biophysics of the Biological Center of Szeged, as well as with the support of UNESCO, an international school for young researchers has opened in Szeged. In addition to Hungarians, the student body consists of college graduates from all four quarters of the globe. The faculty is made up of renowned scientists from the USA, England, Switzerland, the Soviet Union and other countries. The students will acquire fuller knowledge of bacteria molecules which convert light into electric energy. [Text] [Budapest NEPSZABADSAG in Hungarian 6 Sep 80 p 4 WA]

CSO: 2502

BRIEFS

FIBER-CERAMICS, ACOUSTICS RESEARCH--At the same time, the Academy of Mining and Metallurgy, which is included in preparing plans for the coordination of particular problems, fulfills, among other things, the function of coordinating the following: within the CEMA framework, problems pertaining to high-temperature corrosion, machinery for the cement industry and noise and vibration control; interministerial problem of basic research--"Principles of ferrous metallurgy and their practical application;" and ministerial problems of the Ministry of Science, Higher Education and Technology--"Obtainment of fiber-ceramic materials and reinforced fiber composites" and "Development and improvement of methods for reducing engine noise and vibration." [Excerpt] [Warsaw PRZEGLAD TECHNICZNY INNOWACJE in Polish No 27, 6 Jul 80 pp 23-24]

CSO: 2602

END

END OF FICHE

DATE FILMED

Oct. 1, 1980